



June 28, 2010

Ms. Jocelyn Boyd
Interim Chief Clerk and Administrator
South Carolina Public Service Commission
Post Office Drawer 11649
Columbia, South Carolina 29211

Re: Carolina Power & Light Company d/b/a Progress Energy Carolinas, Inc.
Power Plant Performance Report
Docket No. 2006-224-E

Dear Ms. Boyd:

Enclosed is the Power Plant Performance Report for Carolina Power & Light Company d/b/a Progress Energy Carolinas, Inc. for the month of May 2010.

Sincerely,

Len S. Anthony (by dhs)

Len S. Anthony
General Counsel
Progress Energy Carolinas, Inc.

LSA/dhs
Attachment
45612

c: John Flitter (ORS)

May 2010

The following units had no off-line outages during the month of May:

Brunswick Unit 2

Harris Unit 1

Mayo Unit 1

Roxboro Unit 4

Brunswick Unit 1

Full Forced Outage

- A. Duration: The unit was taken out of service at 11:44 on May 5, and was returned to service at 1:14 on May 9, a duration of 85 hours and 30 minutes.
- B. Cause: Automatic Shutdown due to Loss of 1B Reactor Feed Pump Turbine (RFPT) and failure of a Reactor Recirculation (RCR) pump to runback as designed to mitigate the transient.
- C. Explanation: While operating at 100% power, the 1B Reactor Feed Pump Turbine (RFPT) experienced a trip which was followed by a decrease in reactor vessel level. When reactor vessel level dropped to 182 inches (the setpoint for a Reactor Recirculation pump runback) the Reactor Recirculation (RCR) pump failed to runback as designed. Reactor vessel level continued to drop, reaching the 166 inch setpoint initiating an automatic reactor scram.

Investigation determined that the most probable cause of the RFPT trip was a spurious actuation from intermittent continuity due to a small amount of corrosion on connecting pins between a control module board and one of its interconnecting cables.

Failure of the RCR pump runback upon loss of RFP 1B was caused by a design change in 1977. The 1977 modification installed pulsation dampeners (snubbers) in the suction flow sensing lines in order to reduce gauge fluctuations. Given that the design change occurred in 1977, and the minimal amount of documentation available for investigation, it was not possible to determine whether the contingency in question was evaluated.

- D. Corrective Action: The control module board for the RFPT was replaced. The 1997 design change was revised. All maintenance activities and testing were completed, and the unit was returned to service.

Robinson Unit 2

Full Scheduled Outage

- A. Duration: The unit began a refueling outage at 0:00 on April 17, and remained offline for the remainder of the month. The unit was offline for 744 hours during the month of May.
- B. Cause: Scheduled Refueling Outage
- C. Explanation: The unit transitioned to a scheduled refueling outage on April 17, following a forced outage related to a fire associated with the 4-kV power supply to non-vital bus 5. In addition to refueling, required maintenance and inspections are being conducted during the outage.
- D. Corrective Action: Planned outage activities, including refueling, inspections, repairs to the 4-kV busses and electrical components damaged by the fire, and other maintenance activities, were in progress at the end of May.

Roxboro Unit 2

Full Scheduled Outage

- A. Duration: The unit was taken out of service at 0:04 on March 20, and was returned to service at 5:39 on May 19, a duration of 1,445 hours and 35 minutes. The unit was offline for 437 hours and 39 minutes during the month of May.
- B. Cause: Boiler Inspection and Turbine Outage
- C. Explanation: The unit was taken out of service for a planned boiler inspection and turbine outage.
- D. Corrective Action: Planned outage activities, including boiler inspection, turbine valve inspection, periodic, preventative, and corrective maintenance were performed. Upon completion of these activities, the unit was returned to service.

Full Scheduled Outage

- A. Duration: The unit was taken out of service at 22:31 on May 28, and was returned to service at 5:13 on May 31, a duration of 54 hours and 42 minutes.
- B. Cause: Removal of Turbine Fine Mesh Screens
- C. Explanation: The unit was taken out of service for a planned maintenance outage to remove fine mesh screens from main steam stop valves and reheat intercept valves on the turbine.
- D. Corrective Action: Planned outage activities including removal of fine mesh screens on the turbine were completed, and the unit was returned to service.

Roxboro Unit 3

Full Scheduled Outage

- A. Duration: The unit was taken out of service at 22:13 on May 20, and was returned to service at 11:13 on May 24, a duration of 85 hours.
- B. Cause: Boiler Inspection
- C. Explanation: The unit was taken out of service for a planned boiler inspection. Other planned maintenance activities that were completed include replacement of main steam bypass valve and air heater wash.
- D. Corrective Action: Planned outage activities, including boiler inspection, periodic, preventative, and corrective maintenance were performed. Upon completion of these activities, the unit was returned to service.

	Month of May 2010		Twelve Month Summary		See Notes*
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MDC	938 MW		950 MW		1
Period Hours	744 HOURS		8,760 HOURS		
Net Generation	616,858 MWH		6,499,427 MWH		2
Capacity Factor	88.39 %		78.09 %		
Equivalent Availability	86.39 %		78.23 %		
Output Factor	99.87 %		98.31 %		
Heat Rate	10,396 BTU/KWH		10,488 BTU/KWH		
	MWH	% of Possible	MWH	% of Possible	
	-----	-----	-----	-----	
Full Scheduled	0	0.00	1,382,550	16.61	3
Partial Scheduled	582	0.08	82,065	0.99	4
Full Forced	80,199	11.49	329,895	3.96	5
Partial Forced	14,197	2.03	98,050	1.18	6
Economic Dispatch	0	0.00	0	0.00	7
Possible MWH	697,872		8,324,920		8

* See 'Notes for Nuclear Units' filed with the January 2010 report.

** Gross of Power Agency

	Month of May 2010		Twelve Month Summary		See Notes*
MDC	920 MW		931 MW		1
Period Hours	744 HOURS		8,760 HOURS		
Net Generation	668,093 MWH		7,724,680 MWH		2
Capacity Factor	97.61 %		94.73 %		
Equivalent Availability	96.21 %		93.86 %		
Output Factor	97.61 %		98.85 %		
Heat Rate	10,665 BTU/KWH		10,603 BTU/KWH		
	MWH	% of Possible	MWH	% of Possible	
Full Scheduled	0	0.00	107,101	1.31	3
Partial Scheduled	4,030	0.59	35,151	0.43	4
Full Forced	0	0.00	232,840	2.85	5
Partial Forced	21,942	3.21	147,852	1.81	6
Economic Dispatch	0	0.00	0	0.00	7
Possible MWH	684,480		8,155,560		8

* See 'Notes for Nuclear Units' filed with the January 2010 report.

** Gross of Power Agency

	Month of May 2010		Twelve Month Summary		See Notes*
MDC	900 MW		912 MW		1
Period Hours	744 HOURS		8,760 HOURS		
Net Generation	685,081 MWH		7,982,109 MWH		2
Capacity Factor	102.31 %		99.93 %		
Equivalent Availability	100.00 %		98.46 %		
Output Factor	102.31 %		101.27 %		
Heat Rate	10,746 BTU/KWH		10,690 BTU/KWH		
	MWH	% of Possible	MWH	% of Possible	
Full Scheduled	0	0.00	0	0.00	3
Partial Scheduled	0	0.00	9,393	0.12	4
Full Forced	0	0.00	105,870	1.33	5
Partial Forced	0	0.00	11,640	0.15	6
Economic Dispatch	0	0.00	0	0.00	7
Possible MWH	669,600		7,989,120		8

* See 'Notes for Nuclear Units' filed with the January 2010 report.

** Gross of Power Agency

	Month of May 2010		Twelve Month Summary		See Notes*
MDC	724 MW		727 MW		1
Period Hours	744 HOURS		8,760 HOURS		
Net Generation	-868 MWH		5,350,621 MWH		2
Capacity Factor	0.00 %		84.02 %		
Equivalent Availability	0.00 %		81.63 %		
Output Factor	0.00 %		103.03 %		
Heat Rate	0 BTU/KWH		10,681 BTU/KWH		
	MWH	% of Possible	MWH	% of Possible	
	-----	-----	-----	-----	
Full Scheduled	538,656	100.00	793,344	12.45	3
Partial Scheduled	0	0.00	6,002	0.09	4
Full Forced	0	0.00	381,596	5.99	5
Partial Forced	0	0.00	10,254	0.16	6
Economic Dispatch	0	0.00	0	0.00	7
Possible MWH	538,656		6,369,980		8

* See 'Notes for Nuclear Units' filed with the January 2010 report.

	Month of May 2010		Twelve Month Summary		See Notes*
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MDC	727 MW		735 MW		1
Period Hours	744 HOURS		8,760 HOURS		
Net Generation	435,485 MWH		4,553,824 MWH		2
Capacity Factor	80.51 %		70.68 %		
Equivalent Availability	99.98 %		95.00 %		
Output Factor	80.51 %		76.15 %		
Heat Rate	10,536 BTU/KWH		10,639 BTU/KWH		
	MWH	% of Possible	MWH	% of Possible	
	-----	-----	-----	-----	
Full Scheduled	0	0.00	231,715	3.60	3
Partial Scheduled	0	0.00	35,963	0.56	4
Full Forced	0	0.00	16,188	0.25	5
Partial Forced	108	0.02	35,823	0.56	6
Economic Dispatch	105,295	19.47	1,569,182	24.36	7
Possible MWH	540,888		6,442,250		8

* See 'Notes for Fossil Units' filed with the January 2010 report.

** Gross of Power Agency

	Month of May 2010		Twelve Month Summary		See Notes*
MDC	662 MW		665 MW		1
Period Hours	744 HOURS		8,760 HOURS		
Net Generation	98,413 MWH		3,667,515 MWH		2
Capacity Factor	19.98 %		62.96 %		
Equivalent Availability	25.66 %		72.91 %		
Output Factor	59.07 %		84.04 %		
Heat Rate	9,837 BTU/KWH		8,978 BTU/KWH		
	MWH	% of Possible	MWH	% of Possible	
Full Scheduled	325,936	66.18	1,254,515	21.54	3
Partial Scheduled	34,485	7.00	72,072	1.24	4
Full Forced	0	0.00	185,607	3.19	5
Partial Forced	5,728	1.16	68,787	1.18	6
Economic Dispatch	27,966	5.68	575,461	9.88	7
Possible MWH	492,528		5,825,400		8

* See 'Notes for Fossil Units' filed with the January 2010 report.

	Month of May 2010		Twelve Month Summary		See Notes*
MDC	693 MW		696 MW		1
Period Hours	744 HOURS		8,760 HOURS		
Net Generation	373,477 MWH		4,123,856 MWH		2
Capacity Factor	72.44 %		67.66 %		
Equivalent Availability	87.00 %		93.90 %		
Output Factor	81.78 %		71.34 %		
Heat Rate	10,864 BTU/KWH		10,920 BTU/KWH		
	MWH	% of Possible	MWH	% of Possible	
Full Scheduled	58,905	11.42	314,792	5.16	3
Partial Scheduled	7,906	1.53	9,096	0.15	4
Full Forced	0	0.00	0	0.00	5
Partial Forced	209	0.04	47,544	0.78	6
Economic Dispatch	75,094	14.56	1,600,061	26.25	7
Possible MWH	515,592		6,095,500		8

* See 'Notes for Fossil Units' filed with the January 2010 report.

	Month of May 2010		Twelve Month Summary		See Notes*
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MDC	698 MW		702 MW		1
Period Hours	744 HOURS		8,760 HOURS		
Net Generation	410,106 MWH		4,636,702 MWH		2
Capacity Factor	78.97 %		75.37 %		
Equivalent Availability	100.00 %		97.54 %		
Output Factor	78.97 %		76.21 %		
Heat Rate	11,710 BTU/KWH		11,893 BTU/KWH		
	MWH	% of Possible	MWH	% of Possible	
	-----	-----	-----	-----	
Full Scheduled	0	0.00	24,920	0.41	3
Partial Scheduled	0	0.00	71,196	1.16	4
Full Forced	0	0.00	5,596	0.09	5
Partial Forced	0	0.00	50,114	0.81	6
Economic Dispatch	109,206	21.03	1,363,379	22.16	7
Possible MWH	519,312		6,152,440		8

* See 'Notes for Fossil Units' filed with the January 2010 report.

** Gross of Power Agency

Plant	Unit	Current MW Rating	January 2009 - December 2009	May 2010	January 2010 - May 2010
Asheville	1	191	70.87	80.02	77.32
Asheville	2	185	59.45	52.18	66.25
Cape Fear	5	144	63.73	77.00	77.01
Cape Fear	6	172	62.21	55.77	70.98
Lee	1	74	50.63	63.80	74.17
Lee	2	77	41.80	50.95	58.85
Lee	3	246	58.82	64.61	74.50
Mayo	1	727	62.45	80.51	76.32
Robinson	1	177	61.18	71.61	75.36
Roxboro	1	369	79.40	62.83	79.04
Roxboro	2	662	73.67	19.98	51.28
Roxboro	3	693	62.76	72.44	79.97
Roxboro	4	698	71.40	78.97	77.88
Sutton	1	97	39.14	49.36	55.60
Sutton	2	104	44.65	34.24	56.39
Sutton	3	403	48.01	44.33	58.62
Weatherspoon	1	48	13.92	22.73	44.95
Weatherspoon	2	48	14.93	22.74	34.58
Weatherspoon	3	75	23.59	29.66	60.10
Fossil System Total		5,190	62.52	60.45	70.04
Brunswick	1	938	97.67	88.39	54.95
Brunswick	2	920	79.50	97.61	94.43
Harris	1	900	93.90	102.31	100.15
Robinson Nuclear	2	724	104.08	0.00	58.26
Nuclear System Total		3,482	93.18	76.01	77.72
Total System		8,672	74.79	66.70	73.16

Amended SC Fuel Rule
Related to Nuclear Operations

There shall be a rebuttable presumption that an electrical utility made every reasonable effort to minimize cost associated with the operation of its nuclear generation system if the utility achieved a net capacity factor of $\geq 92.5\%$ during the 12 month period under review. For the test period March 1, 2010 through May 31, 2010, actual period to date performance is summarized below:

Period to Date: March 1, 2010 to May 31, 2010

Nuclear System Capacity Factor Calculation (Based on net generation)

A.. Nuclear system actual generation for SCPSC test period A = 5,254,094 MWH

B. Total number of hours during SCPSC test period B = 2,207 hours

C. Nuclear system MDC during SCPSC test period (see page 2) C = 3,482 MW

D. Reasonable nuclear system reductions (see page 2) D = 2,651,612 MWH

A. SC Fuel Case nuclear system capacity factor: $[(A + D) / (B + C)] * 100 = 102.9\%$

NOTE:

If Line Item E $> 92.5\%$, presumption of utility's minimum cost of operation.

If Line Item E $< 92.5\%$, utility has burden of proof of reasonable operations.

Amended SC Fuel Rule
Nuclear System Capacity Factor Calculation
Reasonable Nuclear System Reductions
Period to Date: March 1, 2010 to May 31, 2010

Nuclear Unit Name and Designation	BNP Unit # 1	BNP Unit # 2	HNP Unit # 1	RNP Unit # 2	Nuclear System
Unit MDC	938 MW	920 MW	900 MW	724 MW	3,482 MW
Reasonable refueling outage time (MWH)	1,335,783	0	0	793,344	
Reasonable maintenance, repair, and equipment replacement outage time (MWH)	82,550	26,110	2,368	349,552	
Reasonable coast down power reductions (MWH)	0	0	0	0	
Reasonable power ascension power reductions (MWH)	55,192	464	0	0	
Prudent NRC required testing outages (MWH)	0	5,650	599	0	
SCPSC identified outages not directly under utility control (MWH)	0	0	0	0	
Acts of Nature reductions (MWH)	0	0	0	0	
Reasonable nuclear reduction due to low system load (MWH)	0	0	0	0	
Unit total excluded MWH	1,473,525	32,224	2,967	1,142,896	
Total reasonable outage time exclusions [carry to Page 1, Line D]					2,651,612